# Actors, Partisan Inclination, and Emotions:

# An Analysis of Government Shutdown News Stories Shared on Twitter

# During Dec 2018 and Jan 2019

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## Abstract

Scholars have recognized emotion as an increasingly important element in the reception and retransmission of online information. Because of existing divergence in ideology, both in the audience and producer of news stories, political issues are prone to spark a lot of emotional contents online. This present study takes the 2018-2019 government shutdown as the subject of investigation. The results show the prominence in journalistic and political figures in leading the discussion of news stories, the nuance of emotions employed in the news frames, and the choice of pro-attitudinal news sharing.

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## Introduction

Twitter is one of the most prominent social networking sites. Founded in 2006, it now has more than 300 million monthly active users (Statista, 2019), posting upwards of 500 million tweets per day (Internet Live Stats, 2019). For Twitter users, it is not only a site for self-expression and interpersonal communication, but also a platform on which they acquire news and learn about current events. We can see from the core functions – follow, at, repost and like – how information is disseminated through a global network, and how that information resonates within the tiny portion of that network that each user experiences.

Previous studies have suggested that emotion plays an important role in information diffusion (Capella, and Kim, 2011; Harber, and Cohen, 2005; Kühne, and Schemer, 2015; Stieglitz, and Linh, 2013). Emotional motivations trigger users to create their original posts, and affect their decision to share content. The posts and comments generated by users express their opinions and document their everyday encounters, often conveying an emotional tone. This has inspired traditional news outlets to change their narrative, to capture the emotional intensity of the debate. Out of economic, technological, and popularity concerns, more and more news reports have adopted an emotional or affective tone in their reporting. With the growth of coverage of Twitter debates, emotion has been recognized as an important element in news value (Beckett and Deuze, 2016).

Scholars often study emotion in the context of partisan news in political communication. Studies have shown that one's political orientation points to a strong homophile network (Capella, and Kim, 2011). People show anger and anxiety when news stories oppose their political orientation, and feel positive emotions when stories match their own views. These emotions will continue to impact on how they receive and retransmit the information in the stories. The political sentiment exposed on Twitter during an election campaign, expressed through reposts, likes and comments regarding a political issue, has been featured in many studies that have sought to identify political alignment and predict the election outcome (Bermingham, and .Smeaton, 2011; Conover, Goncalves, Ratkiewicz, Flammini, and Menczer, 2011; Chung, and Mustafaraj, 2011; Pla, and Furtado, 2014) In events during the governance, political sentiment on Twitter also suggests how an online discussion develops and evolves. The government shutdown that took place between Dec.22nd, 2018 and Jan.25th, 2019 is one such event that generated considerable emotional sentiment on Twitter.

In light of this, the present study investigates the role of emotion in the news coverage, online dissemination, and reception of the 2018-2019 government shutdown. The intention of this study was to evaluate the political discussion on social media through the lens of emotion. After collecting Twitter posts sharing news stories during the shutdown, I studied the emotional frames of popular news stories and used a machine learning method to analyze the emotional elements present in the posts.

## Literature Review

### Causes and Consequences of the Government Shutdown

In recent decades, federal government shutdowns have occurred as a result of political disputes over budgetary issues within Congress or between Congress and the White House (Brass, 2018; Meyers, 1997; Williams, and Jubb, 1996). Each year, Congress is required to pass a new appropriation bill before Oct 1st, the official start of a fiscal year. Although such an act has often been delayed, failure to do so typically leads to Congress to enact a "continuous resolution." When disputes impede the enactment of a continuous resolution, funding gaps appear and result in the shutdown of governmental agencies (Brass, 2018; Feld, 1989; Meyers, 1997; Williams, and Jubb, 1996).

The shutdown of the federal government has been referred to as an act of political dysfunction in studies of the US politics. Although it has gained frequency in recent years, it has roots in the polarization of the two parties that serves as a foundation of the political system, a close balance of power as to the control of the Congress, the Senate and the presidency, and other political elements that account for extreme political stances and brinkmanship in budgetary negotiations (Aldrich, 2015; Oklobdjzia, 2017).

When a government shutdown occurs, the most direct outcome is the furlough of certain employees at government agencies. Furloughed employees are at risk of not being compensated for the furloughed time, although in historical circumstances their pay has eventually been reimbursed. Further effects that draw the attention of the public involve government operations and public services such as health and human services, law

enforcement and public safety, national parks services, and other responsibilities of the federal government (Brass, 2018).

Some research regarding government shutdowns has delved into particular aspects of governance concerning public interest and welfare. Drawing on the fact that government-operated health-related accounts stopped posting new contents during the 2013 government shutdown, Merchant, Ha, Wong, Schwartz, Sap, Ungar, and Asch (2014) conducted sentiment analysis on tweets related to health. Their findings suggested that analyzing tweets can provide useful insight for the crisis communication of the government in such times. Asare, Fontaine, Murray-Tuite and El-Metwally (2015) examined the impact of the 2013 government shutdown and missing federal workers in the transportation system on transit in North Virginia. Their findings show that furloughed workers' behavior change result in less traffic load in morning and evening commutes, and the change in midday traffic lasted even after the workers went back to work.

## Actors in Political Discussions on Twitter

Because government shutdowns are political events that evoke wide public discussion, a number of studies have examined some important actors leading or affecting the discussion on Twitter. Regarding the government shutdown that took place during October 2013, during President Obama's second term, Barbera, Bonneau, Egan, Jost, Nagler, and Tucker (2014), and Casas and Wilkinson (2017) focused on party leaders and members of the congress as important figures in the dissemination of political information. Specifically, Casas, and Wilkinson (2017) suggested that online agendas

issued by party leaders were a kind of branding campaign that highlighted the efforts of their own party to resolve the shutdown. Barbera et al. (2017) analyzed twitter data in a longer, 15-month period covering the shutdown, and used topic mining to determine the agenda setting procedure between members of Congress and their followers. Their findings suggested that members of Congress are responsive to followers on Twitter, but their influence on the public agenda of their followers is limited, with Republicans being more susceptible to influence from their core followers and the Democrats being similarly interested in responding to their core followers and broader liberal audiences (Barbera et al., 2017).

In addition to political figures, journalists are also important in the information diffusion process. Russell, Hendricks, Choi, and Stephens (2015) researched the agenda setting of journalists' accounts on Twitter. According to them, journalists are more likely to promote their own stories or stories of their own agencies through links, and show a bias towards traditional news sources than online news in their information dissemination.

In the current study, one aim is to find – broadly speaking –, who are the major contributors to disseminating news stories about the government shutdown.

*RQ1: Of political figures, journalistic figures and the general public, which are the major contributors in disseminating news stories about the government shutdown?*

## Partisan Inclination and Political News Sharing

In the US, under the two-party system, people's political inclinations are distributed in a continuum where one side lies the most liberal and the other side lies the

most conservative. Similarly, the standpoint of different media institutions can also be ranked from the most liberal to the most conservative, according to the survey by Pew Research Center (2016) and fact-checking websites like mediabiasfactcheck.com (2019). People may come across news stories that align with or oppose to their views, and their reactions vary accordingly. Many studies provide evidence for the hostile media effects theory, that people express anger when the news they consume opposes their political beliefs. Sagi and Dehghani's (2014) study of poltical rhetoric suggested that communities that align with the two major political parties each favor moral rhetoric that enhances cohesion within their own community. Iyengar and Krupenkin (2018) identified this emerging trend after the 2000s as strong in-group favoritism, with each group treating the other as a "stigmatized outgroup" (Iyengar and Krupenkin, 2018). This hostility shows strengthened polarization across political issues. The study of Lin, Haridakis and Hanson (2016) and Kim (2017) falls in the same line, suggesting that the group membership of a person is a strong predictor of hostile media bias. Furthermore, opposing views can lead to more active political participation (Kim, 2017), such as in discursive activities (Hwang, Pan, and Sun, 2008) and sharing of information on social media (Hassel, and Weeks, 2016).

Meanwhile, it is worth noting that some studies show results from a different direction. Parsons' (2010) analysis of the ANES panel promotes a "depolarization" hypothesis, that learning about contrasting viewpoints from one's social network would induce negative emotions towards one's own side while developing positive emotions to one's opposite side. Bendersky's (2014) experiment in the context of the 2013

government shutdown suggested that affirmation from members of opposing ideological groups tends to reduce members' psychological defensiveness, thus providing an approach to potentially reduce and resolve political conflicts.

In this study, I am curious whether holding the opposite view as a media institution would induce users to share its news stories. I will examine whether such political disagreement would lead to more negative emotion in the tweets, and more sharing. Accordingly, I studied users' behavior towards in-group and out-group by analyzing tweets and their sharing data. Past studies suggest two types of motivations towards sharing news on Twitter: status-led motivations and emotion-led motivations. Status-led motivations address the fundamental reasons why people share news. This category usually ascribes this behavior to the need to boost the image of intelligence of the individual and to improve his/her social standing. Emotion-led motivations suggest the users' behavior is based on a need to share news due to a perceived emotional connection (Bright, 2016). The emotional broadcaster theory by Harber and Cohen (2005) proposes that users' need for disclosure after emotional experiences leads them to share their own stories and news reports. Messages with more intense emotional cues can be spread farther and more quickly in social networks (Harber, and Cohen, 2005). Status-led motivations are generally the primary predictor of information retransmission (Harber, and Cohen, 2005; Hasell, and Weeks, 2016), but emotion-led motivations also play an important role, affecting users' decisions of whether or not to share content (Stieglitz, and Linh, 2013).

Thus, I propose the following hypotheses:

*H1: Users are more likely to share stories with opposite political views than similar political views during the 2018-2019 government shutdown.*

*H2: The tweets where a story with opposite view is shared are more likely to include indicators of negative emotion.*

## Emotional Elements in News Reports

From a journalistic perspective, in recent years, scholars have recognized emotion as an important element in news reporting. Beckett and Deuze (2016) summarized three factors that led journalists to adopt emotion as a tool in their reporting. First, embedding emotion in news reports creates a sense of involvement in the audience, which makes the news reports more accessible and easier to promote in a heated competition with other news institutes. Second, using emotion can attract people's attention which makes it much easier for news stories to be retransmitted on social media. Third, emotion is also a key part of people's news selection behavior. The factors are in line with Papacharissi's (2014) terminology of the "affective news stream." Defined as "news collaboratively constructed out of subjective experience, opinion, and emotion, all sustained by and sustaining ambient news environments (Papacharissi, 2014: 34)," the "affective news stream" situates itself in the algorithm based social networking sites where journalists and the audience are interactive in their exchanges of subjective experience, opinion and emotions.

Aside from recognizing its importance, scholars also examined the effects of emotion on information processing. Specifically, based on Iyengar's definition of thematic and episodic frames, emotion is incorporated as part of framing (Nabi, 2003).

Depending on the nature of the event, incorporating specific emotion to certain issue or topic can maximize news learning effects, as audience were better at recalling the news contents (Kühne, and Schemer, 2015; Nabi, 2003).

Studies use both terms, affect and emotion, when they explore the emotive element of news reporting, but there are notable differences. Affect is characterized by intensity and instantaneity (Papacharissi, 2014), and is more often used in the studies on social networks. For example, actions like retweeting, liking and commenting behaviors only require a short period of time. Stieglitz and Linh (2013) found that messages containing more affective cues during the German election get faster retweets. In comparison, emotion tends to be more complex and has more dimensions. Drawing from definitions of emotion in psychology, one common way to define emotion is through the appraisal and evaluation of objects. With a hint of cognitive process, valence and arousal are important attributes associated with emotions and the early indicators used to position different types of emotions (Mulligan, and Scherer, 2012; Smith, Ellsworth, and Sherman, 1985). Valence is classified into positive and negative. Scholars describe arousal as a state, which is characterized by intensity and can linger after an emotion has ended (Mulligan, and Scherer, 2012). The emotions of anger, anxiety, amusement and awe have high arousal, while sadness has low arousal (Berger, and Milkman, 2012; Capella, Kim and Albarracin, 2015).

Certain types of emotions, such as anger and anxiety, are often featured in studies of political polarization and partisan media. News opinionation, which is a style of reporting that blends personal opinions into news reporting, makes the audience prone to

address emotional responses. Audiences will sometimes perceive news reports to be biased if the contents are in conflict with their political orientation and beliefs, resulting in anger and criticism toward the reporters and agencies who produced the story (Arpan, and Nabi, 2011). In the subsequent process, anger will trigger more interest in retribution related messages (Nabi, 2003). Anxiety is also elicited when there is a mismatch between the political orientation of the news report and that of the audience. It is more commonly featured in the scenario of misinformation or exaggerated fact in news stories (Heimbach, and Hinz, 2016).

Based on this, this study will seek to examine the emotional frames in the most widely shared stories during the government shutdown.

*RQ2: What kinds of emotional frames are employed by popular news stories covering the 2018-2019 government shutdown?*

## Methodology

### Data Collection

Generally, twitter research uses the API method that warrants downloading of tweets in the past seven days. When I entered the stage of data collection, I had passed the period of the government shutdown. Thus, I decided to source the tweets using the search function on Twitter, and manually collect the tweets. When searching for the tweets, I used "shutdown" as a single keyword for the search. I initially explored more specific terms such as "federal government shutdown" "government shutdown" or "partial government shutdown", and found that in more casually phrased tweets, the incident would simply be referred to as "shutdown". Thus, using "shutdown" as the single search term would promise more comprehensive results.

In the data collection process, I used the "advanced search" function to focus on tweets that contain the key word "shutdown," written in English, and falling in the time frame of the shutdown, which was between Dec 22, 2018 and Jan 25, 2019. I used the "news" tablet to focus on collecting the shared news stories of the government shutdown, classified by Twitter search. In practice, for the convenience of browsing through and collecting all the tweets, the time range was set between every two adjacent days, and the results would be presented in reverse order between 8am of the previous day and 8am of the next day. To be more precise, I first set the time range to be between Jan 25$^{th}$ 2019 and Jan 26$^{th}$ 2019, and collected the tweets timestamped 8am Jan 25$^{th}$ 2019 to 12am Jan 25$^{th}$ 2019. I then moved on to set the date range between Jan 24$^{th}$ 2019 and Jan 25$^{th}$ 2019, and collected tweets from 8am Jan 24$^{th}$ 2019 to 8am Jan 25$^{th}$ 2019. This process went on

until my last round of search went for tweets between Dec 21st 2019 to Dec 22nd 2019, and collected tweets between 12am to 8am on Dec 22nd 2019.

This study focuses on Twitter as a lens to focus on online political discussion. A number of studies have featured Twitter as a social media tool to investigate about the public's opinion on political issues in the context of governance, not campaigns (Barbera, 2017; Michael and Agur, 2018). By acknowledging that the public discussion on Twitter may not fully represent the discussion over the issue in general, there is room to further evaluate the impact of Twitter as a platform on the discussion. I am also aware that the collection of the tweets is dependent on how the Twitter algorithm determines and displays results. As I collected the tweets on a day to day basis, the difference in the number of tweets per day varied. As the study specifically looks at the trend of news sharing on Twitter in the course of a long government shutdown, the same algorithm that applies to the tweet collection of every single day would still be comparable in this dimension. It is the same reason for which I believe the daily number of tweets gathered is representative of the activeness of discussion on Twitter. Using the "news" tab in this process significantly reduces the results to the sharing of journalistic output, which suits the purpose of the study, as I am looking for the evolution of emotional elements during this period in news stories and in the reaction to them on Twitter.

Of course, depending on the context, the keyword "shutdown" can link to different incidents. A small number of tweets found in my serach were not relevant to the US government shutdown, but instead focus on topics such as the L Train shutdown in New York or the Internet shutdown in Zimbabwe. Accordingly, such tweets were

excluded during the collection process. The relevant tweets are collected according to a spreadsheet I created, which contained information about the specific tweet (the URL to the tweet, content of the tweet, time of posting, hashtags used in the tweet, users "at" in the tweet), information about the shared news stories (media source of the story, title of the story, link to the story), information about the user account (name of the account, page of the account, self-introduction to the account, specified webpage of the account, as well as tweets followers and following counts). The initial collection totaled N=6602 tweets. Because the purpose of the study is to link the tweet content to the choice of one news story, a small number of tweets that list more than one news stories from one or more media institutions are excluded. A few links to invalid news content are also excluded. Ultimately, the data collection yields a clean dataset that contains N=6554 tweets.

## Coding and Measurement

### Account types

After collecting down and browsing through all the tweets, one general impression is that large amount of the news-sharing tweets come from media institutions' official accounts, or affiliated journalists. A few political figures are also notable for contributing to the retweets of a story. I then went on to code the category of the user as one of the following types: 1) media institutions 2) journalists 3) political figures 4) political advocate groups 5) non-political non-government organizations 6) personal accounts 7) accounts that are endorsed by a fictional character 8) private companies 9) explicitly indicated bots. I intently set the initial coding to be more specific to capture

more trends in the accounts. Then I recoded them into broader categories: types 1-2 were named as journalistic accounts, 3-4 were political affiliated accounts, and 5-9 were categorized as the general public.

Political Inclinations

Many users who belonged to political advocacy groups or the general public category would explicitly indicate their political leaning in their account name or introduction. Thus, I annotated their political orientation using the information gathered. The inference is based on the name and introduction of the user only. Those with explicit indications are marked as liberal or conservative. In some accounts, there was straightforward naming of having a liberal or conservative view. In many other cases, the political leaning can be inferred from specific wording or hashtags the user used in his/her name or introduction. For example, the word “resist” and “indivisible” were associated with a liberal point of view, and the combination #MAGA (Make America Great Again), and #Trump2020 were associated with a conservative point of view.

Because part of the analysis looks at the difference of pro-attitudinal and non-attitudinal news sharing, I also coded the political inclination of the media institution that published the story. The coding was based on the report of audience’s ideology by Pew Research Center (2016) and the categorization by the website Media Bias/Fact Check (2019).

Emotional elements

To analyze the emotional elements in the tweets, I used the language analysis software LIWC2015. LIWC, which stands for Linguistic Inquiry and Word Count, is a

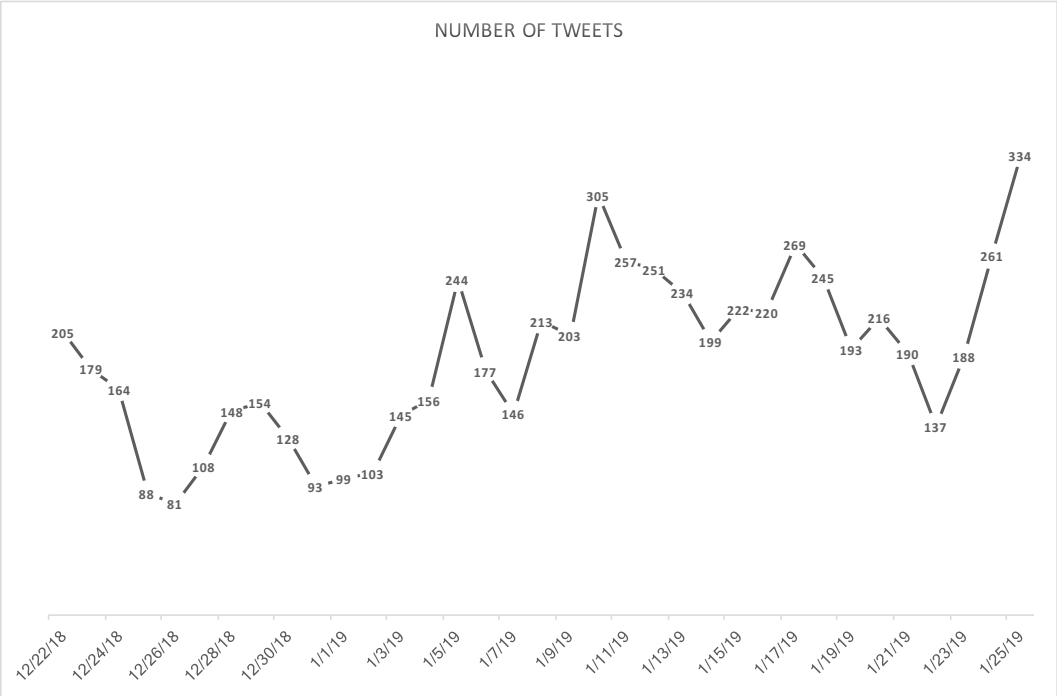
java-based software developed by researchers to “capture people’s social and psychological states (LIWC, 2019).” LIWC has been utilized in a couple of past publications of communication research (Berger, and Milkman, 2012). It analyzes text by going through the vocabulary in built-in dictionaries, and returns results with multiple outputs about language use, such as the use of different pronouns, different categories of words (like prepositions, adverbs, etc.). In this study, I focused on the elements of affect, positive emotion and negative emotion.

## Results

Daily tweet counts

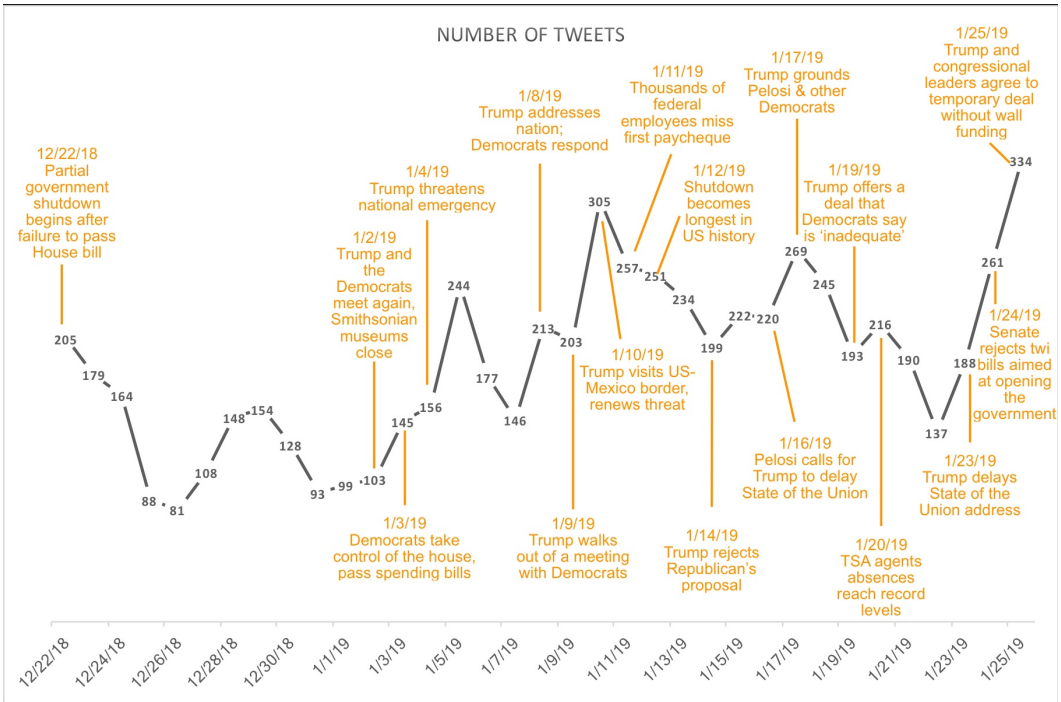
Figures 1 shows the trend in the daily tweet count in the time of the government shutdown. Because this study focuses on the tweets that share news stories, the daily tweet count is not a very large number ($M$=182.79, SD=62.75). The number of tweets gathered fluctuates from day to day but shows a noticeable increase in the end of the shutdown period. When matching the daily tweet count with the major events in the shutdown period (Al Jazeera, 2019), as seen in Figure 2, some of the fluctuation in tweet count can be accounted for. Started on December 22nd, the government shutdown was also referred to as "the holiday shutdown," as the US entered the holiday period for Christmas and New Year, displayed in a lower number of tweets than at the beginning, as people were distracted from Twitter use. After the holidays, a series of major events took place on a tight schedule, and the daily tweet count reached a higher level.

Figure 1 Trend of daily tweet count




*This graph shows the trend of the number of news sharing tweets on each day during the government shutdown. The number of trend suggests the activeness of the discussion, and one major issue from this graph is that the discussion became more active during later days of the shutdown.*

Figure 2 Daily Tweet Count w/ Major Events in the Timeline




*This graph shows the trend of the number of news sharing tweets with the annotations of important events during the shutdown. The annotations suggest that engagement in the discussion is more active with the rapid development of the issue. As major events took place, the number of tweets took on a surge.*

Retweets

Figure 3 shows the distribution of the number of retweets of all the tweets collected in the study. In a right-skewed distribution, the number of retweet mostly resides in a smaller number (M=160.38, SD=549.25).

Figure 4 shows the trend for average retweet per day during the period of the shutdown. Similar to the trend in the daily tweet count, the graph suggests fluctuation and a slight increase in the end.

Figure 3a Distribution of retweets

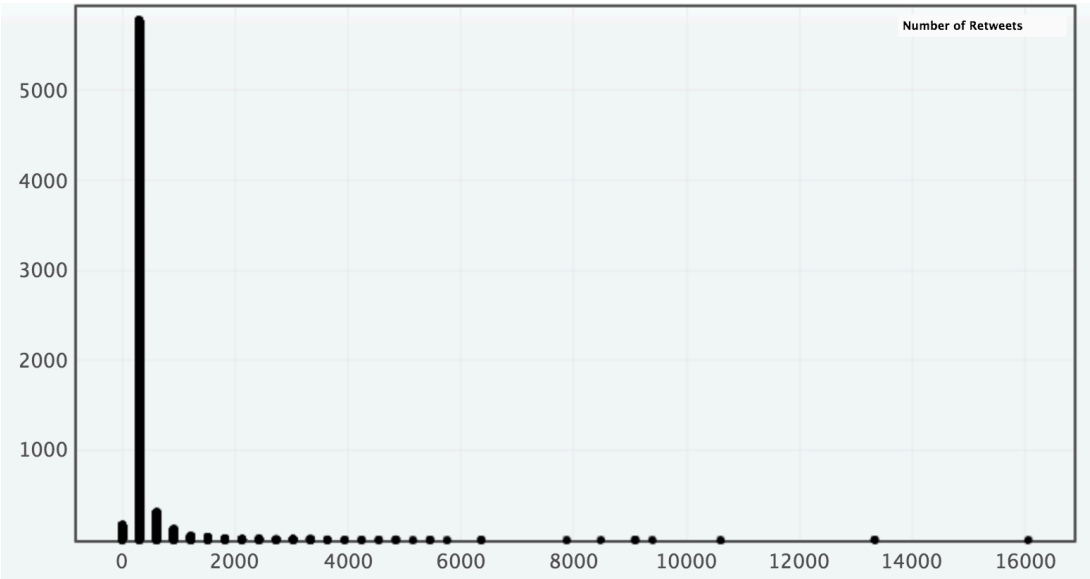



Figure 3b Distribution of retweets (narrowing down to retweets 0 to 1000)

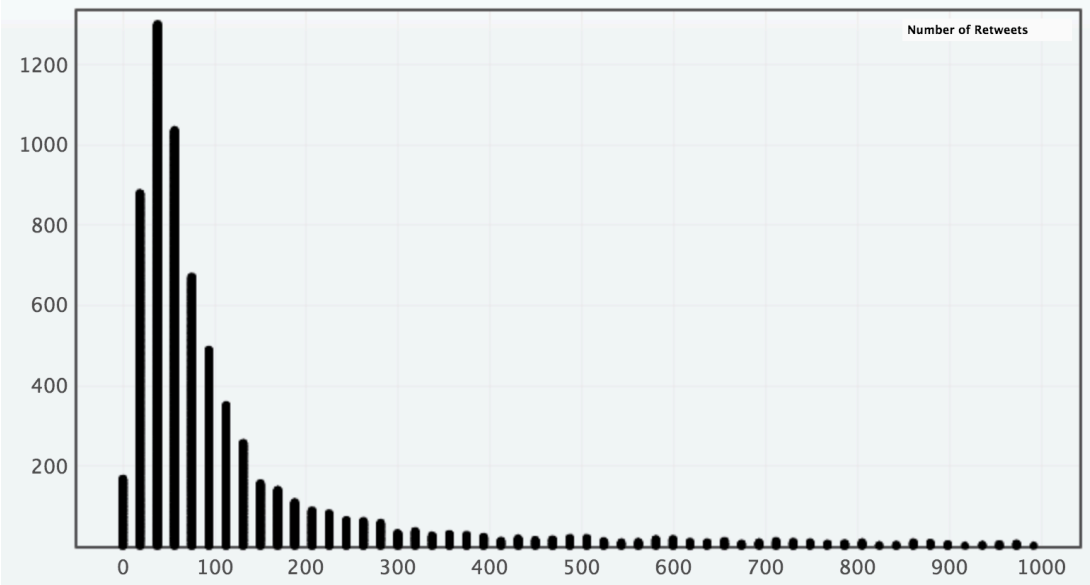


*Figure 3a shows the general skewed distribution of retweeting number of news sharing tweets, and Figure 3b offers a closer view of the tweets excluding a few outliers (retweeting number >1000), and the long tail effects. Despite the tweets from a few prominent figures, such as a leading journalistic figure and opinion leader (Kyle Griffin), or figures associated very closely with the politics (Donald Trump Jr). The graphs show that a large number of tweets have retweets within the range between 0 and 100, which make it not suitable for statistical tests that assume a normal distribution.*

Figure 4 Trend of Average Retweet

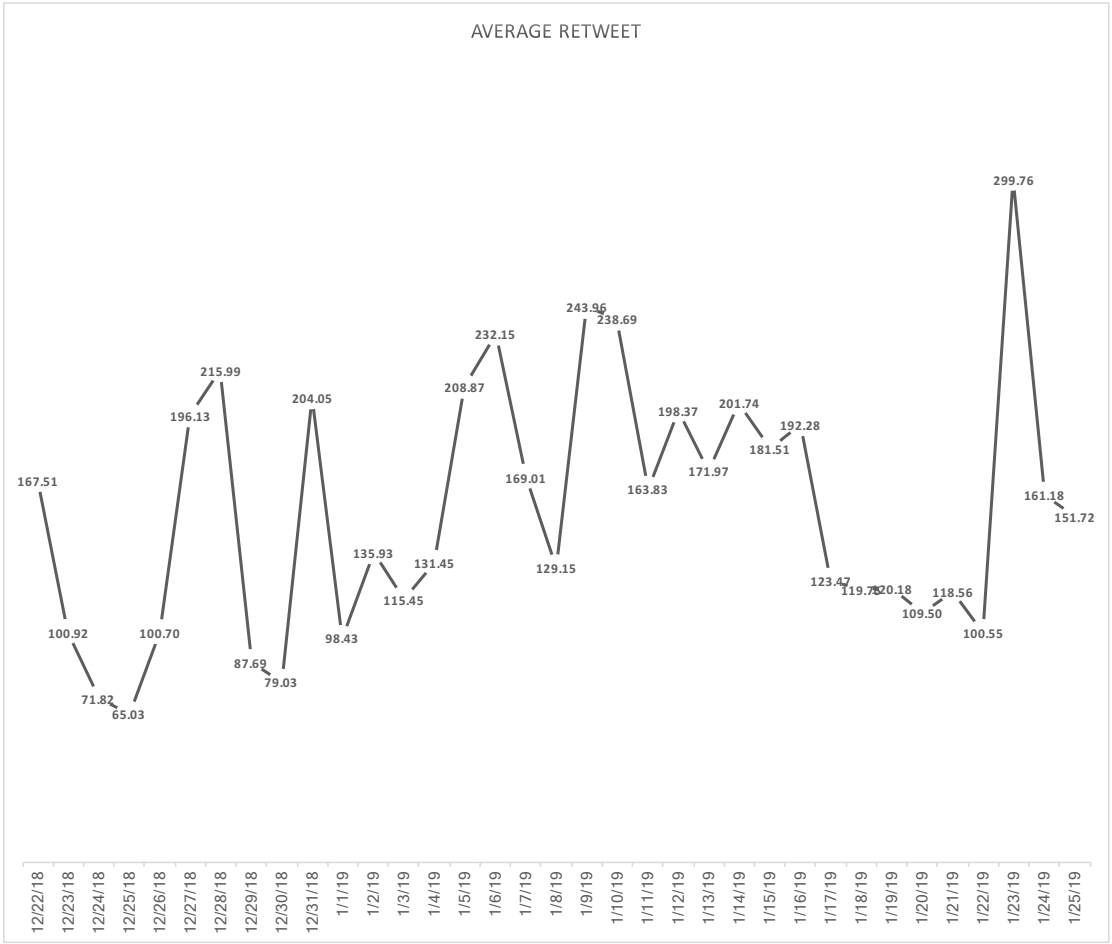


*Figure 4 shows the trend of average retweet during the days of the shutdown. Though the curve is not perfectly meeting with the trend of daily number of tweets per day, the graph also shows an intensified discussion towards the middle to the end of the shutdown.*

Figure 5 Trend in daily emotional elements

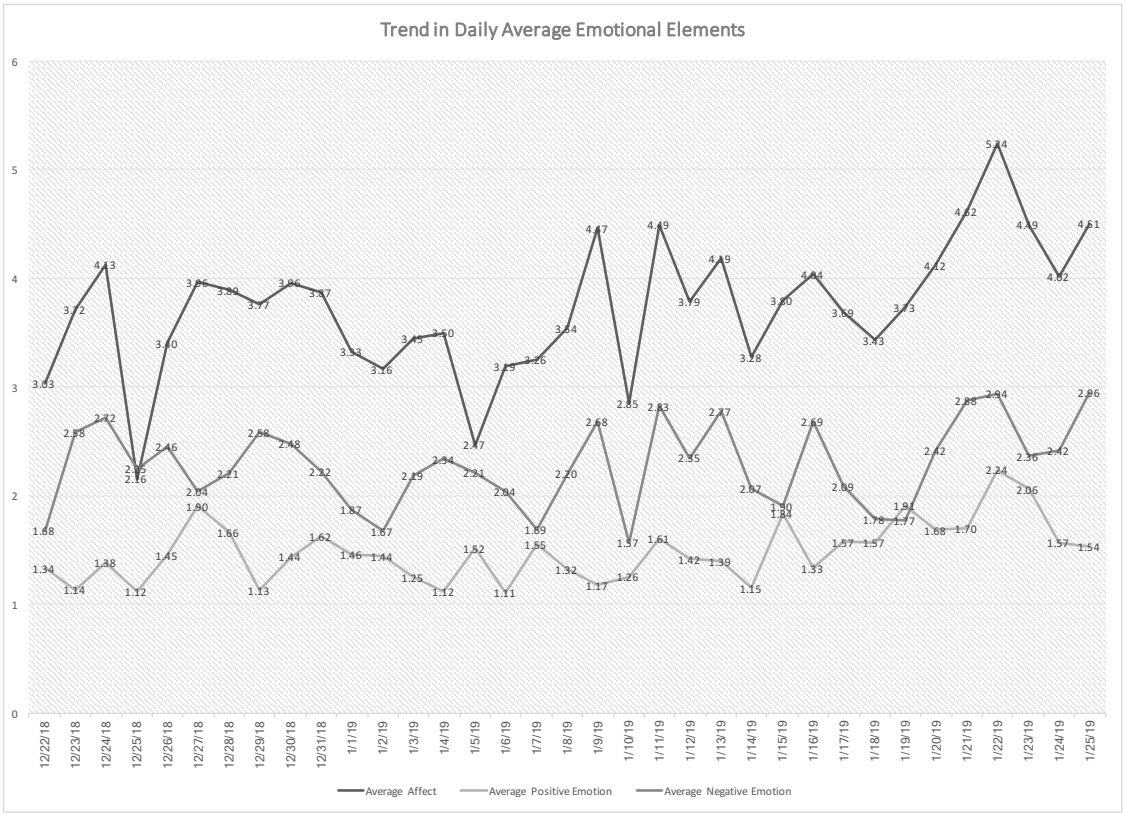


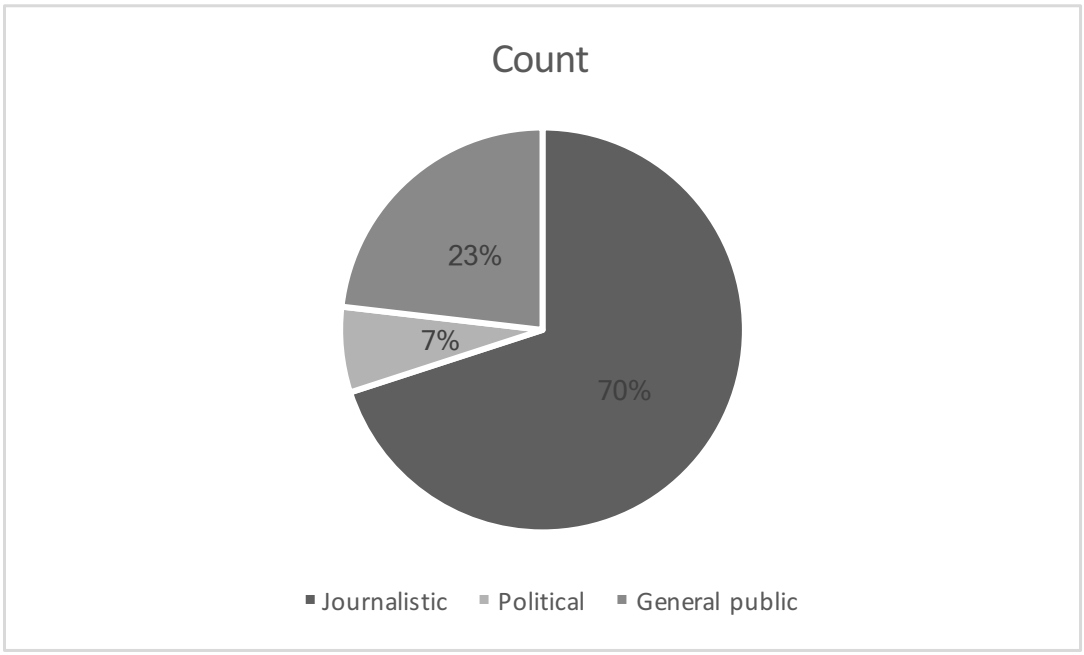

*Figure 5 shows the trend in average affect, positive emotion and negative emotion per day. The data is calculated by averaging the LIWC 2015 outcomes on affect, positive emotion and negative emotion on each day of the shutdown. This shows the proclivity to tweet emotion related vocabulary. Overall, affect, positive emotion and negative emotion report an increase at the end of the shutdown period despite fluctuations. All three elements reach a peak on Jan 22nd, when the number of tweets collected are at a low*

*point, and according to the shutdown timeline, the process to end the shutdown is at a stalemate.*

Account types

After recoding the account types into three categories, I examined the differences of news sharing between types. Journalistic accounts contributed to the majority of sharing of tweets: of the 6554 tweets gathered, 4558 were posted by either a media institution or a journalist. The vast difference in proportion is shown in Figure 5.

Figure 6 Proportion of Tweets Divided by Account Types




*Journalistic accounts make up for 70% of tweets, followed by a 23% from general public, and the last 7% from political accounts.*

Table 1 shows the average retweet and standard deviation by different account types. When divided by the account type, the accounts that are affiliated with politics have the largest average retweet (M=299.35, SD=1003.01). The result from a

multivariate showed that accounts that are marked as political accounts have significant higher retweets (M=299.35; $F(6555) = 7.935$, $p$=.000) than journalistic accounts (M=152.46) and tweets from general public (M=143.32).

Table 1 General Linear Model of Retweets

| | M (SD) | | | | | |
|---|---|---|---|---|---|---|
| Variable | Journalistic (N=4558) | Political (N=458) | General public (N=1048) | F(*df*) | *P* | Partial $eta^2$ |
| Retweets | 152.46 (497.34) | 299.35 (1003.01) | 143.32 (502.65) | 7.935 (6555) | .000 | .004 |

For RQ1, in the number of tweets, media institutions and journalists are the major contributors of news sharing on Twitter. In the amount of retweets the news stories have on Twitter, the data suggests that political affiliated accounts yield more retweets that other types, but there is no statistical proof for that claim.

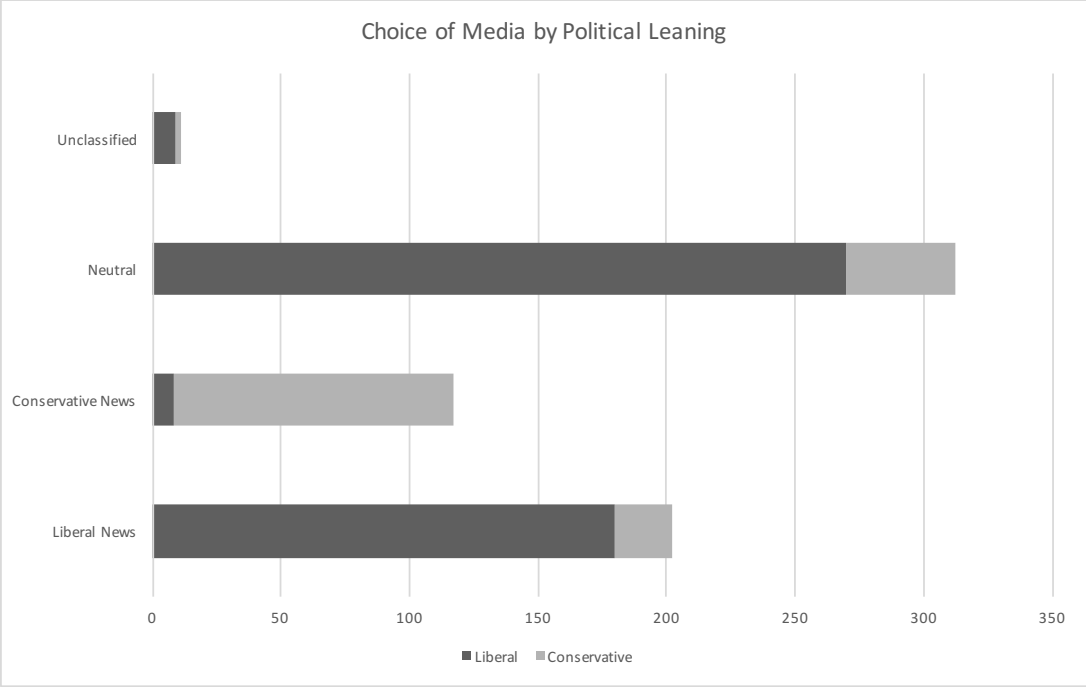
Political leaning

Of the 6554 tweets, 782 tweets were posted by accounts with a declared political leaning. Focusing on the tweets by the general public, I identified a sliced dataset of N=642 tweets. Of these, 467 come from users with a liberal viewpoint, while 145 are from users with a conservative viewpoint. The counts for users with each type of political leaning opting to share a story by media with each type of bias are indicated in Table 3 and Figure 6.

Table 2 Users' Political View and Choice of Media

| | Liberal Media | Conservative Media | Neutral Media | Unspecified Media | Total |
|---|---|---|---|---|---|
| Liberal View | 180 | 8 | 270 | 9 | 467 |
| Conservative View | 22 | 109 | 42 | 2 | 145 |
| Total | 202 | 117 | 312 | 11 | 642 |

Figure 7 Choice of Media by Political Orientation




*The graph shows the choice of media with different degree of political inclination, when contrasting with the political inclination of the accounts. Neutral sources turn out to be the most preferred source of news. Despite neutral and unclassified sources, those tweets posted from conservative sources, those tweets posted from liberal sources does not vary too much in number, and tend to align with the political inclination of the accounts.*

As is supported by the data in Table 2, a strong association exists between the political leaning of the user and his/her choice of media to share a story on Twitter. Contrary to what H1 posits, the data suggests a significant preference of pro-attitudinal sharing, $X2(3, N=642) = 312.96$, $p=.000$.

H2 posits that the tweets for counter-attitudinal news sharing would bear more negative emotion than tweets for pro-attitudinal news sharing. Disregarding the media with neutral stance or unspecified stance, I regrouped the remaining N=319 tweets. Descriptive statistics did not indicate a substantial difference in the amount of negative emotion between pro-attitudinal news sharing (N=289, M=2.66, SD=3.61) and counter-attitudinal news sharing (N=30, M=2.73, SD=3.55). As is users' confirmed preference for pro-attitudinal news, the difference in sample size, and a distribution that does not resemble a normal curve do not warrant enough statistical power to test that association.

Emotional frames

Because the number of retweets does not follow a normal distribution, and does not support making claims of association, this part of the study aims to investigate the elements that prompt retransmission of news stories on Twitter by changing the perspective and analyzing the top most shared tweets in the dataset.

Emotional Frames

The previous analysis investigated the relationship between overall retweet and the emotional elements. However, due to the distribution of the number of retweet in the dataset, and a lack of manipulation of the data, there is no indication of a statistically significant association with the number of retweets. Then, for RQ2, from a different

perspective, I chose to conduct a frame analysis of the news stories in the 100 most retweeted Twitter posts. These 100 posts have an average retweet number of 3437.08 (SD=2647.42), and are distributed closer to the midpoint and later time period of the shutdown (see Figure 7). Of the mot retweeted 100 tweets, 60 were from journalistic accounts, 17 from political accounts, and 23 belonged to the general public.

Figure 8 The Distribution in Time of the 100 Most Retweeted Posts

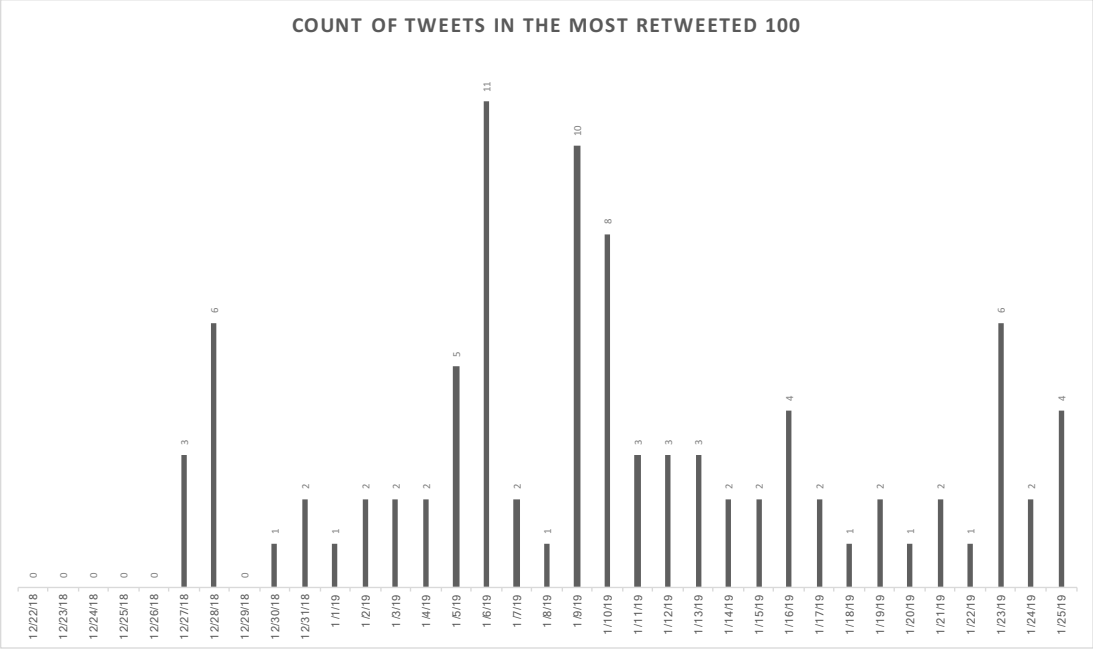
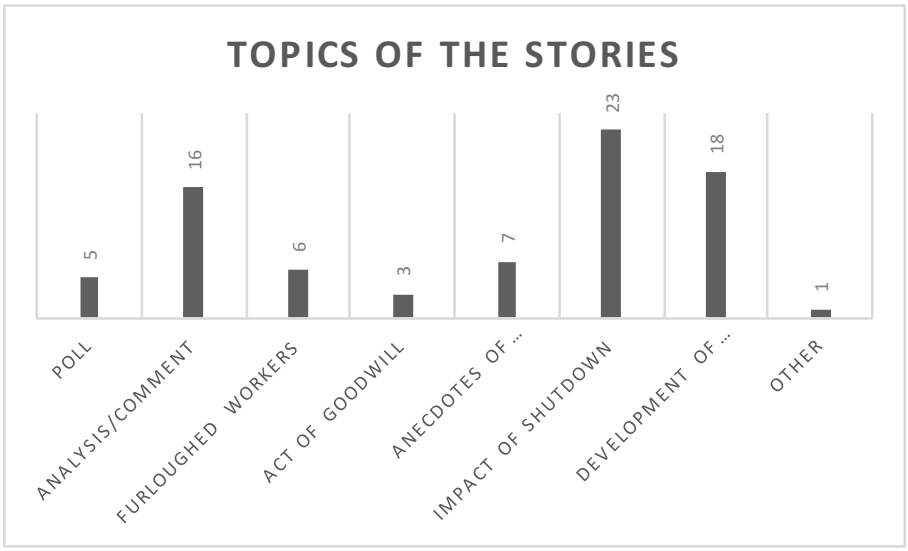



*Figure 8 shows the temporal distribution of the most retweeted tweets. The also provides evidence of the intensification of discussion in later days of the shutdown.*

Because some tweets shared the same news stories, the 100 tweets included a total of 79 different news stories. A closer examination of the topic and emotions displayed in the stories suggested some insight for twitter users' interest in political stories. The results are displayed in Figure 8. The topic that appears the most is the negative impact of shutdown on everyday life. In the 79 articles, 23 fell into this category. They looked into

the negative impact of the partial government shutdown on airlines, national parks, food industry, safety issues and so on. Bearing a grim tone, they tend to appeal to the readers by evoking a sense of anxiety and concern about everyday matters. The second most popular topic is the development of the shutdown. These stories often adopted a plain and direct narrative that did not bear much emotion. News stories that analyzed the situation also were widely retweeted. Depending on the amount of opinion in the story, they can include less or more satire.

Figure 9 Topics by the 79 Stories




*6 categories are generated when analyzing the topics of the 79 most shared stories: poll information, analysis and commentary of the event, act of goodwill, anecdotes of prominent political figures, impact of shutdown, development of the issue, and other. Categories "impact of the shutdown", "development of the issue" and "analysis/commentary" have the most stories.*

Because this government shutdown was the longest in the US history and covered more than two paychecks for affected federal employees, furloughed workers emerged as

an important topic. Six stories focused on how the government shutdown posed financial difficulties to federal workers, and evoked sympathy, anxiety and concern over the matter. Language use in these articles carry a negative tone that stress on the misfortune of the issue. For example, the New York Time's article on Jan 8th that entitled "As Government Shutdown Goes On, Workers' Finance Fray: 'Nobody Signed Up for This", the use of negative words like "nobody" in the title, and more in the punch line "… used to live paycheck to paycheck. Now, she is living nothing to nothing." helps create an overwhelming pessimistic tone that pushes the readers to feel sympathetic to the furloughed workers that are put into such circumstances. Similar style can be found in other news stories of the same topic. The Washington Post's "Coast Guard families told they have garage sales to cope with government shutdown" published on Jan 10th, wrote in its punchline that "bankruptcy is the last option", that pitched for the anxiety in the air. Individual stories were featured, and quotes from these individuals were extensively used to make the stories more real and the feelings more intense. A different angle was employed from CBS Chicago's "Pawn Shop Owners Say He Sees 10-20 Federal Employees Every Day During Shutdown". Borrowing the eyes of a third person (a pawnshop), the article accurately depicts the economic crisis of furloughed employees, and through his words like "I feel sorry for them", the article engages the audience in an sympathetic story frame.

Anecdotes of the political figures draw stories that feature the non-relevant aspects of the political figures, such as Nancy Pelosi spending a holiday in Hawaii, or Ivanka Trump and Jared Kushner left to spend their holiday at Mar-a-Lago. The contrast

between anecdotes of wealthy government leaders and ordinary workers in the government shutdown generated more intense emotions in the stories.

Despite the shutdown being an issue with considerable negative emotion, several stories that advocated one person's good deeds to help during the shutdown also were widely retweeted. CBC's pizza delivery story that carried positive emotion, as well as a sense of humor and satire contrasting the civilians of Canada and the government of the US was one such story.

## Discussion

The 2018-2019 government shutdown was the longest in US history. Over the course of its 35 days' duration, it passed the major holidays of Christmas and the New Year. The festive atmosphere of the holidays, and the negative moods towards the government shutdown and its consequences clashed, made the event ideal to study the element of emotion in the discussion of an event of governance. Many studies have looked at Twitter as a means of probing public opinions (Casas, and Wilkerson, 2017; Merchant et al., 2014; Michael, and Agur, 2018). The 2018-2019 government shutdown similarly generated a vast discussion on Twitter. By focusing specifically on the "news" segment of the tweets, we closely examined 6554 tweets, their emotional components, and the news stories shared by the tweets.

In political procedures, as is addressed in the literature, a government shutdown takes place after a failure by the White House and Congress to settle on a funding plan for the federal government (Brass, 2018; Feld, 1989; Meyers, 1997; Williams, and Jubb, 1996). In this case, the controversy in the funding plan centers around President Trump's proposal for funding a border wall. When the funding plan for the border wall was not approved by the Congress, the president announced the shutdown of the federal government starting on December 22. The announcement led to the shutdown of certain government agencies and the furlough of government employees, then subsequent events caused by the closing down of certain responsibilities of the government.

By comparing the fluctuation of the number of news-sharing tweets, the average amount of retweet, and the distribution of most shared stories by the 100 most retweeted

posts, I am able to gauge where public interest lands during the government shutdown. In a similar sense, the number of tweets per day (Figure 1), the average retweets (Figure 2) and the temporal distribution of the most shared tweets (Figure 7) suggest that public attention in the government shutdown intensified a few days after entering the shutdown. Earlier reports of the government shutdown were still putting to doubt that the shutdown would continue after the holidays, adding that the Christmas holiday may have hampered Twitter use, as a result, both the number of tweets and the average retweets were low in the first few days, and none of the most retweeted posts fell into that range. It was after Christmas, as the fruitlessness of negotiation unfolded, that the discussion began to surge on all figures. The most retweeted posts landed on a peak on Jan.6$^{th}$, and two other peaks on Jan.9$^{th}$ and Jan.10$^{th}$, similar to the trend in the number of tweets, which reached a pick on Jan 6$^{th}$ and a second ascent on Jan.10$^{th}$. The average retweets also suggested a peak on Jan.5$^{th}$ and 6$^{th}$ and another on Jan.9$^{th}$ and Jan.10$^{th}$. These rises corresponded with the major events of the days: On Jan.4$^{th}$ President Trump threatened to declare a national emergency for the wall funding; on Jan.8$^{th}$, the President addressed the nation in a public speech, to which the Democrats responded; on Jan.9$^{th}$, A subsequent meeting between Trump and the Democrats took place; and on Jan.10$^{th}$, Trump visited the US-Mexico border and renewed his threat to declare a national emergency. The series of events followed closely with the trend of the Twitter data, showing that the public discussion was widely sparked by major events that took place during the government shutdown.

In the 79 stories represented by the 100 most shared tweets, a topic analysis of the most popular news stories show a mixture of microscopic and macroscopic angles that

draw most public attention. After categorizing the topics of the 79 stories, I found that most topics focused on the development of the shutdown. 18 stories were straightforward reporting of the development of the issue, spread out during the range of the shutdown. 23 of the stories showed public's interest in consequences that the shutdown brought to their everyday lives. On the microscopic level, much public attention is drawn on the shutdown of certain branches of the government, such as the US Food and Drug Administration (FDA), the National Park Service (NPS) and the Transportation Security Administration (TSA). A major reason why the stories emerged as their own category was the continuance of the holiday theme. The usual agenda would be that families gather and have fun together, and thus media outlets grasped public interest by addressing their concerns during the holiday period. These interests included government responsibilities such as the safety of transportation, maintenance of travel destinations, and food inspections. The impact of these stories was well-observed as the category they belonged to made out the biggest portion of the most shared stories. Another microscopic angle in the shutdown pitched to the furloughed government employees as the victims of the shutdown. Stressing the fact that the 2018-2019 government shutdown was long enough to include two paycheck cycles, a string of stories looked at the financial difficulties the shutdown posed on furloughed government employees. On a macro level, the majority of popular stories show public interest in the development and nature of the issue. The topics of the most shared stories suggest that the efforts of learning about facts and details from the news stories in the first place. These stories were often brief updates to the issue. The fact that they comprised the second biggest portion of the most shared

stories showed that the public were using Twitter to follow up with the development of the government shutdown. A much smaller portion of stories shared were categorized as analysis/comments of the stories, showing that the function of reading and sharing news on Twitter may lean towards knowing the happenstance than understanding the event in depth. Some of the categories of the topics show more deliberate efforts on the journalistic side to generate emotions in the audience. With the shutdown being overall an event with major negative impact, there are three stories that elaborated on the goodwill of people, and were in direct contrast with the negative theme. The stories were about the unemployment benefits offered to furloughed workers in California, that Canadian Air sent pizza to furloughed US employees, and that a chef offered free food to furloughed employees. By zooming in on the good acts of a select few stories, a mixture of feelings can be produced. Let alone the appreciation of these actions, the actions of goodwill from the individuals and foreign counterpart compared to the inability to come to a solution of the government, and the satire or humor by this comparison can be contributing factors towards retransmission of such stories. Similarly, many stories involving anecdotes of well-known political figures, including Donald Trump, Ivanka Trump and Jared Kushner, and Nancy Pelosi, contrasted their lifestyles with those of the government employees affected by the shutdown, to pitch to the satire and anger felt by the audience.

Past research has suggested that political and journalistic accounts are important political actors in the Twitter discussion of the government shutdown (Barbera et al., 2014; Casas & Wilkinson, 2017; Russell et al., 2015). In a previous study, scholars

suggested that Twitter could become a platform of political branding (Casas, and Wilkerson, 2015). Judging from the number of news sharing tweets collected in the range of the shutdown, advocacy and branding by political figures was as common. Political figures also yielded the largest number of average tweets, due to their prominence as public figures. However, journalistic accounts generated the most news sharing posts. Of these posts, a large number were shared by the media institution automatically promoting their stories. Journalists also participated in promoting news stories by them, by their affiliated agencies, or commenting on the issue. By the type of media agencies, the news sharing on Twitter stemmed mostly from traditional news sources. As part of this can be ascribed to the influence of traditional news media as a solid and reliable source of news, another may be that Twitter took a conventional approach in categorizing news vs general tweets.

Before running the analysis on the news sharing the data, the literature pointed to two different directions as to how political orientation of the user would affect their choice of media with a different political stance. The hostile media effect reflected the anger generated because of the difference in political stance between the reader and the media (Kim, 2017; Lin et. al., 2016). By specifying the political orientation of the user account, and the political orientation of the media of choice, this study adds to the substantiation of in-group favoritism in political issues (Iyengar, and Kupenkin, 2018). Analysis of the data suggests a significant preference for pro-attitudinal news sharing versus counter-attitudinal sharing. Contrasting to what Kim (2017) and Lin et al. (2016) posit as the hostile media effect, there does not seem to be significantly more negative

emotion in the tweets about counter-attitudinal news sharing. This insignificance may be due to the vast contrast in number of pro-attitudinal and counter-attitudinal news sharing tweets. Also, differing from the projection of Parsons (2010) and Bendersky (2014) on the issue of the government shutdown, the political stance of the user account does not point to sharing of news stories of opposite views, and does not lead to resolving the clashes between different stances. With the strong preference of pro-attitudinal news sharing the interchange of different political orientation is scarce, and what can be seen is the strengthening of original political beliefs and the aggravating discussion on the issue during a prolonged government shutdown.

As I have indicated in the topics of the most prominent news stories, a majority of the most news stories picture a "matter-of-fact" tone to explain to the public in macroscopic and microscopic perspective, the consequences of the government shutdown. Only a few of the most prominent stories are commentary that feature more dramatic language use. However, it is typical that in the stories reporting facts to embed emotions. Because of the nature of the event, most analytical pieces bear a negative tone in reporting. Stories concerning the impact of closed government agencies on the general public are especially accustomed to embed a sense of anxiety and fear when they explore the potential negative outcomes. Anger and satire appear less in the stories, but are common in commentary pieces. It is noticeable that during the analysis of emotional frames, certain topics were often paired with certain emotional frames (Kühne, and Schemer, 2015; Nabi, 2003). Stories of the furloughed employees can raise emotions of sympathy and anxiety. Stories about the closing of government employees cn also spark

anxiety, fear and sometimes anger. Stories that attribute the cause of the shutdown to the opposing political parties generate satire and fear. It is not clear how news learning outcomes can be evaluated on Twitter, but the massive retweets in these kinds of stories suggest that they tend to cater to, and strengthen, the mindset of the general public, and frame a typical impression on the government shutdown.

## Conclusion

The present study offers a close-up into the political discussion over government shutdown, an issue during governance. By focusing on the element of emotion, I am able to see how opposing views are displayed through the selective retransmission of news stories on Twitter in a period of more every day time, instead of more oppositional period of an election. Although there is no direct evidence pointing to the Twitter retweets number to specific emotional elements or political sides, the study suggests the rigidity of one's political views and one's echo chamber in terms of news retransmission. The prevalence of pro-attitudinal sharing and the general negative tone in the discussion suggests that anger and other negative emotion is present and hard to change in the time of great political divide. A homophily network such as Twitter may have reinforced the existing barrier and even in such an open discussion on an open platform, exchange of stories is scant. Lack of interchange in political views and strengthening of original political beliefs contribute to heightening in political discussion, especially as the event ensues after a long period of time. This study offers a base to track on public discourse on governance for a longer period of time to help improve on the evaluation of political discussion in the future.

In this study, I narrowed down the range of tweets by focusing on the "news" tablet in the twitter search results. Using Twitter's categorization of news stories allows for a concentration on news sharing in the study, and improves efficiency by filtering out tweets about the issue that may not qualify for analysis. However, this step in the methodology also makes this study subject to the Twitter algorithm that determines the

"news stories." It should be acknowledged that both the number of tweets per day and the selection of tweets are determined by the Twitter algorithm, which may be difficult to determine. Knowing Twitter's classification of news, and the way in which tweets are pulled out, may help explain whether there is a structural interference on the finding of bias towards traditional media, and the political actors in the news discussion. A way to improve this methodology is to download all tweets on the matter of shutdown, then sort out news stories about the US government shutdown, and categorize the tweets using machine learning based techniques. Other ways can be explored in the future to process large number of tweets on a political issue and facilitate identification of valid messages.

This study used a developed linguistic analysis tool to identify the emotional component of tweets. The software helped with processing the large number of tweets gathered in the dataset and generated values used for analysis. This study also focused on a small portion (relative to the total) of tweets to manually code and generate the topics of the most shared stories. Although manual coding on the small number of stories did show a pattern for better transmitted stories in the period, seeking a way to automatically analyze the topics would collaborate better with the efforts to manage the large dataset and help bring a general picture for the political discussion.

The data in this study shows the prominence of journalistic and political figures in the news discussion on Twitter during the shutdown. Despite the focus on emotion and news selected for this study, other perspectives can also be taken on examining the conversation. Automatic topic mining after classifying the three groups may help address whether a gap exists between the three groups. Additional efforts can be made to identify

the impact of each type of account on the follower network of Twitter. It would also be useful to combine more details in the analysis of Twitter than trends and variances during a relatively long period. Focusing on specific accounts, keywords and hashtags as some previous studies did can bring more nuance to the story. When combined with statistic testing and modeling, this approach can yield a richer, more detailed understanding when probing online discussion of political issues.

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